Textbook Alignment to the Utah Core – Algebra 1

This alignment has been completed using an "Independent Alignment Vendor" from the USOE approved list (www.schools.utah.gov/curr/imc/indvendor.html.) Yes N/A No N/A

Name of Company and Individual Conducting Alignment: Jennifer Bailey

A "Credential Sheet" has been completed on the above company/evaluator and is (Please check one of the following):

X On record with the USOE.

☐ The "Credential Sheet" is attached to this alignment.

Instructional Materials Evaluation Criteria (name and grade of the core document used to align): Algebra 1 Core Curriculum

Title: CME Algebra 1 © 2009 ISBN#: 0132031175

Publisher: Pearson

Overall percentage of coverage in the *Student Edition (SE) and Teacher Edition (TE)* of the Utah State Core Curriculum: 98%

Overall percentage of coverage in *ancillary materials* of the Utah Core Curriculum: 2%

STANDARD I: Students will expand number sense to understand, perform operations, and solve problems with real numbers.

Percentage of coverage in the *student and teacher edition* for Standard I:100 %	**Percentage of coverage not in student or teacher edition, but covered in the *ancillary material* for Standard I: N/A**

	Coverage in *Student Edition(SE) and Teacher Edition (TE)* (pg #'s, etc.)	Coverage in *Ancillary Material*	*Not covered in TE, SE or*

OBJECTIVES & INDICATORS		(titles, pg #'s, etc.)	*ancillaries*
Objective 1.1: Represent real numbers as points on the number line and distinguish rational numbers from irrational numbers.			
a. Define a rational number as a point on the number line that can be expressed as the ratio of two integers, and points that cannot be so expressed as irrational.	**SE/TE: 537, 547-549, 557, 586**		
b. Classify numbers as rational or irrational, knowing that rational numbers can be expressed as terminating or repeating decimals and irrational numbers can be expressed as non-terminating, non-repeating decimals.	**SE/TE: 537, 548-550, 550-551, 557, 584, 586, 588**		
c. Classify *pi* and square roots of non-perfect square numbers as irrational.	**SE/TE: 548-550, 550-551, 557, 584, 586, 588**		
d. Place rational and irrational numbers on a number line between two integers.	**SE/TE: 547**		
Objective 1.2: Compute fluently and make reasonable estimates with rational and irrational numbers.			
a. Simplify, add, subtract, multiply, and divide expressions with square roots.	**SE/TE: 535-536, 538-540, 540-541, 542-543, 543-546, 551, 554-556, 557, 584, 586, 588-589**		
b. Evaluate and simplify numerical expressions containing rational numbers and square roots using the order of operations.	**SE/TE: 31-32, 57, 60, 69-70, 87, 184, 536, 540, 543**		
c. Compute solutions to problems, represent answers in exact form, and determine the reasonableness of answers.	**SE/TE: 39, 206-208, 352-353, 433-434, 457, 533, 537, 538-539, 540-541, 542-543, 543-546, 547, 556, 612**		
d. Calculate the measures of the sides of a right triangle using the Pythagorean Theorem.	**SE/TE: 206, 207-208, 217, 249, 547**		

STANDARD II: Students will extend concepts of proportion to represent and analyze linear relations.			
Percentage of coverage in the *student and teacher edition* for Standard II:<u>100</u> %		**Percentage of coverage not in student or r edition, but covered in the *ancillary material* for Standard II: N/A**	
OBJECTIVES & INDICATORS	**Coverage in *Student Edition(SE) and Teacher Edition (TE)* (pg #'s, etc.)**	**Coverage in *Ancillary Material* (titles, pg #'s, etc.)**	***Not covered in TE, SE or ancillaries***
Objective 2.1: Represent and analyze the slope of a line.			
a. Identify the slope of a line when given points, a graph, or an equation.	**SE/TE: 313-315, 316-318, 319-322, 323-327, 329, 330-331, 333, 338, 339, 341-342-343, 345, 347-348, 350, 352, 354-355, 367, 368, 370-371, 402, 407, 430, 449-450, 452, 456, 459**		
b. Identify horizontal and vertical lines given the equations or slopes.	**SE/TE: 316-317, 322, 327, 346-347, 354, 376**		
c. Determine the effect of changes in slope or *y*-intercept t in $y = mx + b$.	**SE/TE: 312, 316-317, 319-322, 325-327, 329, 332, 350, 352, 355, 372**		
d. Determine and explain the meaning of slopes and intercepts using real-world examples.	**SE/TE: 309-312, 313, 316-318, 319-322, 323-327, 331-332, 333, 347, 349-350, 352, 357, 365-366, 449-450**		
Objective 2.2Model and interpret problems having a constant rate of change using linear functions.			
a. Write algebraic expressions or equations to generalize visual patterns, numerical patterns, relations, data sets, or scatter plots.	**SE/TE: 339-340, 341-342, 347-348, 351-352, 354, 355, 367, 371, 379, 394, 402, 435-436, 438, 443, 450, 452, 453-454, 455-459, 463, 482-488, 489-492, 576-579, 750-751, 752-753**		
b. Represent linear equations in slope-intercept form, $y = mx + b$, and standard form, $Ax + By = C$.	**SE/TE: 312, 338, 341, 342-343, 346-348, 354, 355, 356, 357, 359, 368, 371, 379, 402, 435-436, 438, 450, 453**		
c. Distinguish between linear and non-linear functions by examining a table, equation, or graph.	**SE/TE: 447, 451-454, 455-459, 467, 483-485, 573-575, 576-578, 580, 587, 747-751, 752-754, 755, 759**		

d. Interpret the slope of a linear function as a rate of change in real-world situations.	**SE/TE: 312, 319-322, 323-327, 333, 349-350, 352-353, 354, 355, 357, 359, 360-361, 364-366, 450**		
Objective 2.3: Represent and analyze linear relationships using algebraic equations, expressions, and graphs.			
a. Write the equation of a line when given two points or the slope and a point on the line.	**SE/TE: 339-340, 341-342, 347-348, 351-352, 354, 355, 367, 371, 379, 394, 402, 435-436, 438, 443, 450, 452-454, 455-459, 463**		
b. Approximate the equation of a line given the graph of a line.	**SE/TE: 394, 396, 398, 404**		
c. Identify the *x*- and *y*-intercepts from an equation or graph of a line or a table of values.	**SE/TE: 344-345, 347-348, 350, 354, 367, 372**		
d. Graph linear relations and inequalities by plotting points, by finding *x*- and *y* intercepts, or by using the slope and any point on the line.	**SE/TE: 343, 344-345, 346, 348, 350, 354, 358-359, 379, 381, 386, 404, 435, 439-440, 443, 739-742, 744-746**		
STANDARD III: Students will develop fluency with the language and operations of algebra to analyze and represent relationships.			
Percentage of coverage in the *student and teacher edition* for Standard III: 95 %		**Percentage of coverage not in student or r edition, but covered in the *ancillary material* for Standard III: 5%**	
OBJECTIVES & INDICATORS	**Coverage in *Student Edition(SE) and Teacher Edition (TE)* (pg #'s, etc.)**	**Coverage in *Ancillary Material* (titles, pg #'s, etc.)**	***Not covered in TE, SE or ancillaries***
Objective 3.1: Simplify polynomials and the quotient of monomials.			
a. Simplify and evaluate monomial expressions and formulas.	**SE/TE: 98-99, 100-102, 103-105, 107-109, 110-111, 113, 115, 133, 504-505, 506-510, 512-516, 517-522, 528, 529, 536, 538-541, 542-545**		
b. Add and subtract polynomials.	**SE/TE: 599, 601, 623-624, 625-626, 631, 634, 637, 638, 674-675**		
c. Multiply monomials by a polynomial.	**SE/TE: 593, 601, 612, 624, 626, 628, 631, 637**		

d. Multiply binomials.	**SE/TE: 594-595, 599, 601-602, 614, 615, 617-619, 625-626, 628, 630, 636-637, 638, 652, 653, 675**		
e. Simplify the quotient of monomials using positive exponents.	**SE/TE: 504, 505, 512-514, 515-516, 517-519, 522, 526-527, 528, 529, 584, 589**		
Objective 3.2: Solve and interpret linear ons and inequalities in various situations ing real-world problems.			
a. Solve single-variable linear equations and inequalities algebraically and graphically.	**SE/TE: 135-136, 137, 138-139, 140-142, 143-145, 146-147, 149, 150-152, 153, 154-156, 157, 161, 163, 164, 166, 168, 169-171, 180-181, 182, 185, 381-382, 384-387, 387-391, 400, 403, 405, 407**		
b. Solve real-world problems involving constant rates of change.	**SE/TE: 313, 318, 319-327, 333, 337, 343, 347, 349-350, 352-355, 357, 359, 360-361, 364-366, 450**		
c. Solve equations for a specified variable.	**SE/TE: 172-173, 174-177, 182-183, 185, 348, 354, 407, 589**		
d. Solve proportions that include algebraic first-degree expressions.		**High School Mathematics Skills Review and Practice Workbook: 47-48**	
Objective 3.3: Solve and interpret pairs of linear equations and inequalities.			
a. Solve systems of two linear equations graphically and algebraically with and without technology.	**SE/TE: 265-268, 356-359, 360-367, 368-372, 373-378, 379, 81, 383, 386-387, 400, 403, 404**		
b. Determine the number of possible solutions for a system of two linear equations.	**SE/TE: 359, 367, 368-370, 371, 400, 403, 405**		
c. Graph a system of linear inequalities and identify the solution.	**SE/TE: 740-744, 744-746, 760, 763**		
Objective 3.4: Factor polynomials with common monomial factors and factor simple quadratic expressions.			
a. Find the greatest common monomial factor of a polynomial.	**SE/TE: 599, 605-606, 607, 611-612, 614-615, 674**		

b. Factor trinomials with integer coefficients of the form $x^2 + bx + c$.	**SE/TE: 613, 653-656, 658-660, 671, 675, 688, 695-697, 698-699, 700, 720, 758, 762**		
c. Factor the difference of two squares and perfect square trinomials.	**SE/TE: 642-644, 645-648, 649-652, 659, 661-666, 666-669, 671, 672-673, 675, 676-677**		
Objective 3.5: Solve quadratic equations using factoring or by taking square roots.			
a. Solve quadratic equations that can be simplified to the form $x^2 = a$ where $a \geq 0$ by taking square roots.	**SE/TE: 533, 536, 541, 651, 661, 664-666, 668, 704**		
b. Solve quadratic equations using factoring.	**SE/TE: 603-604, 607-608, 610, 611, 615, 639, 651, 655, 658, 660, 661, 663-664, 666-670, 671, 674-675, 677, 681, 688-689, 692, 699, 701, 704, 720, 731**		
c. Write a quadratic equation when given the solutions.	**SE/TE: 660, 682, 690-692, 693-694, 699, 701, 761**		
STANDARD IV: Students will understand concepts from statistics and apply statistical methods to solve problems.			
Percentage of coverage in the *student and teacher edition* for Standard IV: <u>100</u> %		**Percentage of coverage not in student or r edition, but covered in the *ancillary material* for Standard IV: N/A**	
OBJECTIVES & INDICATORS	**Coverage in *Student Edition(SE) and Teacher Edition (TE)* (pg #'s, etc.)**	**Coverage in *Ancillary Material* (titles, pg #'s, etc.)**	***Not covered in TE, SE or ancillaries***
Objective 4.1: Objective 1: Summarize, display, and analyze bivariate data.			
a. Collect, record, organize, and display a set of data with at least two variables.	**SE/TE: 219, 38-240, 243-247**		
b. Determine whether the relationship between two variables is approximately linear or non-linear by examination of a scatter plot.	**SE/TE: 392-393, 397, 596**		
c. Characterize the relationship between two linear related variables as having positive, negative, or approximately zero correlation.	**SE/TE: 392-393, 397, 403**		

Objective 4.2: Estimate, interpret, and use lines fit to bivariate data.			
a. Estimate the equation of a line of best fit to make and test conjectures.	**SE/TE: 394, 396, 399-400, 404-405**		
b. Interpret the slope and *y*-intercept of a line through data.	**SE/TE: 403**		
c. Predict *y*-values for given *x*-values when appropriate using a line fitted to bivariate numerical data.	**SE/TE: 394-395, 398-399, 405**		